



SEQUENCE LISTING

<110> Chang, Yuan

Moore, Patrick

<120> Unique Associated Kaposi's Sarcoma Virus Sequences And Uses Thereof

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<141> 2000-06-29

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| cacggacagg | aagaaaaatt | cgtgatgaac | atgccctca | ttgccctggg | cattcaaacc | 1920 |

| | | | | | | |
|-------------|------------|------------|------------|------------|-------------|------|
| tactgggtca | actcgggaaa | actggcgttt | gtgaacagtt | atcacatggt | tagattcatc | 1980 |
| tgtacgcata | ttgggaatgg | aagcatccct | aaggaggcgc | acggccacta | ccggaaaatc | 2040 |
| ttaggcgagc | tcatcgccct | tgagcaggcg | cttctcaagc | tcgcgggaca | cgagacggtg | 2100 |
| ggtcggacgc | cgatcacaca | tctggtttcg | gctctcctcg | acccgcatct | gctgcctccc | 2160 |
| tttgctacc | acgatgtctt | tacggatctt | atgcagaagt | catccagaca | acccataatc | 2220 |
| aagatcgggg | atcaaaacta | cgacaaccct | caaaataggg | cgacattcat | caacctcagg | 2280 |
| ggtcgcacgg | aggacctagt | caataacctt | gttaacattt | accagacaag | ggtcaatgag | 2340 |
| gaccatgacg | agagacacgt | cctggacgtg | gcgcccctgg | acgagaatga | ctacaacccg | 2400 |
| gtcctcgaga | agctattcta | ctatgtttta | atgccgggtg | gcagtaacgg | ccacatgtgc | 2460 |
| ggtatggggg | tcgactatca | aaacgtggcc | ctgacgctga | cttacaacgg | ccccgtcttt | 2520 |
| gcggacgtcg | tgaacgcaca | ggatgatatt | ctactgcacc | tggagaacgg | aaccttgaag | 2580 |
| gacattctgc | aggcaggcga | catacgcccg | acggtggaca | tgatcagggg | gctgtgcacc | 2640 |
| tcgtttctga | cgtgcccttt | cgtcaccacg | gccgctcgcg | tgatcacaaa | gcgggacccg | 2700 |
| gcccagagtt | ttgccacgca | cgaatacggg | aaggatgtgg | cgcagaccgt | gcttggtaat | 2760 |
| ggctttggtg | cgttcgcggt | ggcggaccgc | tctcgcgagg | cggcggagac | tatgttttat | 2820 |
| ccggtaccct | ttaacaagct | ctacgctgac | ccgttggtgg | ctgccacact | gcacccgctc | 2880 |
| ctgccaaact | atgtcaccag | gctccccaac | cagagaaacg | cggtggtctt | taacgtgcca | 2940 |
| tccaatctca | tggcagaata | tgaggaatgg | cacaagtcgc | cgcgcgcggc | gtatgcccgcg | 3000 |
| tcttgctcagg | ccaccccggg | cgccattagc | gccatggtga | gcacgcacca | aaaactatct | 3060 |
| gccccagtt | tcatttgcca | ggcaaaacac | cgcacgcacc | ctggttttgc | catgacagtc | 3120 |
| gtcaggacgg | acgaggttct | agcagagcac | atcctatact | gctccagggc | gtcgacatcc | 3180 |
| atgtttgtgg | gcttgccctc | ggtggtacgg | cgcgaggtac | gttcggacgc | ggtgactttt | 3240 |
| gaaattaccc | acgagatcgc | ttccctgcac | accgcacttg | gctactcatc | agtcacgcgc | 3300 |
| ccggcccacg | tggccgcat | aactacagac | atgggagtac | attgtcagga | cctcttttatg | 3360 |
| attttcccag | gggacgcgta | tcaggaccgc | cagctgcatg | actatatcaa | aatgaaagcg | 3420 |
| ggcgtgcaaa | ccggctcacc | gggaaacaga | atggatcacg | tgggatacac | tgctgggggt | 3480 |
| cctcgcctcg | agaacctgcc | cggtttgagt | catggtcagc | tggcaacctg | cgagataatt | 3540 |


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cccacgccgg tcacatctga cgttgccctat ttccagaccc ccagcaaccc ccggggggcgt 3600
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tacatgtcaa acaagcagac acacgccccca gtacacatgg gccagtatct cattgaagag 4080
gtggcgccga tgaagagact attaaagctc ggaaacaagg tgggtgtat 4128

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<210> 3

<211> 1376

<212> PRT

<213> Kaposi's sarcoma-associated herpesvirus

<400> 3

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Met Glu Ala Thr Leu Glu Gln Arg Pro Phe Pro Tyr Leu Ala Thr Glu
1           5           10          15

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Ala Asn Leu Leu Thr Gln Ile Lys Glu Ser Ala Ala Asp Gly Leu Phe
20          25          30

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Lys Ser Phe Gln Leu Leu Leu Gly Lys Asp Ala Arg Glu Gly Ser Val
35          40          45

```

```

Arg Phe Glu Ala Leu Leu Gly Val Tyr Thr Asn Val Val Glu Phe Val
50          55          60

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```

Lys Phe Leu Glu Thr Ala Leu Ala Ala Ala Cys Val Asn Thr Glu Phe
65          70          75          80

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Lys Asp Leu Arg Arg Met Ile Asp Gly Lys Ile Gln Phe Lys Ile Ser
85 90 95

Met Pro Thr Ile Ala His Gly Asp Gly Arg Arg Pro Asn Lys Gln Arg
100 105 110

Gln Tyr Ile Val Met Lys Ala Cys Asn Lys His His Ile Gly Ala Glu
115 120 125

Ile Glu Leu Ala Ala Ala Asp Ile Glu Leu Leu Phe Ala Glu Lys Glu
130 135 140

Thr Pro Leu Asp Phe Thr Glu Tyr Ala Gly Ala Ile Lys Thr Ile Thr
145 150 155 160

Ser Ala Leu Gln Phe Gly Met Asp Ala Leu Glu Arg Gly Leu Val Asp
165 170 175

Thr Val Leu Ala Val Lys Leu Arg His Ala Pro Pro Val Phe Ile Leu
180 185 190

Lys Thr Leu Gly Asp Pro Val Tyr Ser Glu Arg Gly Leu Lys Lys Ala
195 200 205

Val Lys Ser Asp Met Val Ser Met Phe Lys Ala His Leu Ile Glu His
210 215 220

Ser Phe Phe Leu Asp Lys Ala Glu Leu Met Thr Arg Gly Lys Gln Tyr
225 230 235 240

Val Leu Thr Met Leu Ser Asp Met Leu Ala Ala Val Cys Glu Asp Thr
245 250 255

Val Phe Lys Gly Val Ser Thr Tyr Thr Thr Ala Ser Gly Gln Gln Val
260 265 270

Ala Gly Val Leu Glu Thr Thr Asp Ser Val Met Arg Arg Leu Met Asn
275 280 285

Leu Leu Gly Gln Val Glu Ser Ala Met Ser Gly Pro Ala Ala Tyr Ala
290 295 300

Ser Tyr Val Val Arg Gly Ala Asn Leu Val Thr Ala Val Ser Tyr Gly
 305 310 315 320

Arg Ala Met Arg Asn Phe Glu Gln Phe Met Ala Arg Ile Val Asp His
 325 330 335

Pro Asn Ala Leu Pro Ser Val Glu Gly Asp Lys Ala Ala Leu Ala Asp
 340 345 350

Gly His Asp Glu Ile Gln Arg Thr Arg Ile Ala Ala Ser Leu Val Lys
 355 360 365

Ile Gly Asp Lys Phe Val Ala Ile Glu Ser Leu Gln Arg Met Tyr Asn
 370 375 380

Glu Thr Gln Phe Pro Cys Pro Leu Asn Arg Arg Ile Gln Tyr Thr Tyr
 385 390 395 400

Phe Phe Pro Val Gly Leu His Leu Pro Val Pro Arg Tyr Ser Thr Ser
 405 410 415

Val Ser Val Arg Gly Val Glu Ser Pro Ala Ile Gln Ser Thr Glu Thr
 420 425 430

Trp Val Val Asn Lys Asn Asn Val Pro Leu Cys Phe Gly Tyr Gln Asn
 435 440 445

Ala Leu Lys Ser Ile Cys His Pro Arg Met His Asn Pro Thr Gln Ser
 450 455 460

Ala Gln Ala Leu Asn Gln Ala Phe Pro Asp Pro Asp Gly Gly His Gly
 465 470 475 480

Tyr Gly Leu Arg Tyr Glu Gln Thr Pro Asn Met Asn Leu Phe Arg Thr
 485 490 495

Phe His Gln Tyr Tyr Met Gly Lys Asn Val Ala Phe Val Pro Asp Val
 500 505 510

Ala Gln Lys Ala Leu Val Thr Thr Glu Asp Leu Leu His Pro Thr Ser
 515 520 525

His Arg Leu Leu Arg Leu Glu Val His Pro Phe Phe Asp Phe Phe Val
530 535 540

His Pro Cys Pro Gly Ala Arg Gly Ser Tyr Arg Ala Thr His Arg Thr
545 550 555 560

Met Val Gly Asn Ile Pro Gln Pro Leu Ala Pro Arg Glu Phe Gln Glu
565 570 575

Ser Arg Gly Ala Gln Phe Asp Ala Val Thr Asn Met Thr His Val Ile
580 585 590

Asp Gln Leu Thr Ile Asp Val Ile Gln Glu Thr Ala Phe Asp Pro Ala
595 600 605

Tyr Pro Leu Phe Cys Tyr Val Ile Glu Ala Met Ile His Gly Gln Glu
610 615 620

Glu Lys Phe Val Met Asn Met Pro Leu Ile Ala Leu Val Ile Gln Thr
625 630 635 640

Tyr Trp Val Asn Ser Gly Lys Leu Ala Phe Val Asn Ser Tyr His Met
645 650 655

Val Arg Phe Ile Cys Thr His Ile Gly Asn Gly Ser Ile Pro Lys Glu
660 665 670

Ala His Gly His Tyr Arg Lys Ile Leu Gly Glu Leu Ile Ala Leu Glu
675 680 685

Gln Ala Leu Leu Lys Leu Ala Gly His Glu Thr Val Gly Arg Thr Pro
690 695 700

Ile Thr His Leu Val Ser Ala Leu Leu Asp Pro His Leu Leu Pro Pro
705 710 715 720

Phe Ala Tyr His Asp Val Phe Thr Asp Leu Met Gln Lys Ser Ser Arg
725 730 735

Gln Pro Ile Ile Lys Ile Gly Asp Gln Asn Tyr Asp Asn Pro Gln Asn
740 745 750

Arg Ala Thr Phe Ile Asn Leu Arg Gly Arg Met Glu Asp Leu Val Asn
755 760 765

Asn Leu Val Asn Ile Tyr Gln Thr Arg Val Asn Glu Asp His Asp Glu
770 775 780

Arg His Val Leu Asp Val Ala Pro Leu Asp Glu Asn Asp Tyr Asn Pro
785 790 795 800

Val Leu Glu Lys Leu Phe Tyr Tyr Val Leu Met Pro Val Cys Ser Asn
805 810 815

Gly His Met Cys Gly Met Gly Val Asp Tyr Gln Asn Val Ala Leu Thr
820 825 830

Leu Thr Tyr Asn Gly Pro Val Phe Ala Asp Val Val Asn Ala Gln Asp
835 840 845

Asp Ile Leu Leu His Leu Glu Asn Gly Thr Leu Lys Asp Ile Leu Gln
850 855 860

Ala Gly Asp Ile Arg Pro Thr Val Asp Met Ile Arg Val Leu Cys Thr
865 870 875 880

Ser Phe Leu Thr Cys Pro Phe Val Thr Gln Ala Ala Arg Val Ile Thr
885 890 895

Lys Arg Asp Pro Ala Gln Ser Phe Ala Thr His Glu Tyr Gly Lys Asp
900 905 910

Val Ala Gln Thr Val Leu Val Asn Gly Phe Gly Ala Phe Ala Val Ala
915 920 925

Asp Arg Ser Arg Glu Ala Ala Glu Thr Met Phe Tyr Pro Val Pro Phe
930 935 940

Asn Lys Leu Tyr Ala Asp Pro Leu Val Ala Ala Thr Leu His Pro Leu
945 950 955 960

Leu Pro Asn Tyr Val Thr Arg Leu Pro Asn Gln Arg Asn Ala Val Val
965 970 975

Phe Asn Val Pro Ser Asn Leu Met Ala Glu Tyr Glu Glu Trp His Lys
980 985 990

Ser Pro Val Ala Ala Tyr Ala Ala Ser Cys Gln Ala Thr Pro Gly Ala
995 1000 1005

Ile Ser Ala Met Val Ser Met His Gln Lys Leu Ser Ala Pro Ser
1010 1015 1020

Phe Ile Cys Gln Ala Lys His Arg Met His Pro Gly Phe Ala Met
1025 1030 1035

Thr Val Val Arg Thr Asp Glu Val Leu Ala Glu His Ile Leu Tyr
1040 1045 1050

Cys Ser Arg Ala Ser Thr Ser Met Phe Val Gly Leu Pro Ser Val
1055 1060 1065

Val Arg Arg Glu Val Arg Ser Asp Ala Val Thr Phe Glu Ile Thr
1070 1075 1080

His Glu Ile Ala Ser Leu His Thr Ala Leu Gly Tyr Ser Ser Val
1085 1090 1095

Ile Ala Pro Ala His Val Ala Ala Ile Thr Thr Asp Met Gly Val
1100 1105 1110

His Cys Gln Asp Leu Phe Met Ile Phe Pro Gly Asp Ala Tyr Gln
1115 1120 1125

Asp Arg Gln Leu His Asp Tyr Ile Lys Met Lys Ala Gly Val Gln
1130 1135 1140

Thr Gly Ser Pro Gly Asn Arg Met Asp His Val Gly Tyr Thr Ala
1145 1150 1155

Gly Val Pro Arg Cys Glu Asn Leu Pro Gly Leu Ser His Gly Gln
1160 1165 1170

Leu Ala Thr Cys Glu Ile Ile Pro Thr Pro Val Thr Ser Asp Val
1175 1180 1185

Ala Tyr Phe Gln Thr Pro Ser Asn Pro Arg Gly Arg Ala Ala Ser
 1190 1195 1200

Val Val Ser Cys Asp Ala Tyr Ser Asn Glu Ser Ala Glu Arg Leu
 1205 1210 1215

Phe Tyr Asp His Ser Ile Pro Asp Pro Ala Tyr Glu Cys Arg Ser
 1220 1225 1230

Thr Asn Asn Pro Trp Ala Ser Gln Arg Gly Ser Leu Gly Asp Val
 1235 1240 1245

Leu Tyr Asn Ile Thr Phe Arg Gln Thr Ala Leu Pro Gly Met Tyr
 1250 1255 1260

Ser Pro Cys Arg Gln Phe Phe His Lys Glu Asp Ile Met Arg Tyr
 1265 1270 1275

Asn Arg Gly Leu Tyr Thr Leu Val Asn Glu Tyr Ser Ala Arg Leu
 1280 1285 1290

Ala Gly Ala Pro Ala Thr Ser Thr Thr Asp Leu Gln Tyr Val Val
 1295 1300 1305

Val Asn Gly Thr Asp Val Phe Leu Asp Gln Pro Cys His Met Leu
 1310 1315 1320

Gln Glu Ala Tyr Pro Thr Leu Ala Ala Ser His Arg Val Met Leu
 1325 1330 1335

Ala Glu Tyr Met Ser Asn Lys Gln Thr His Ala Pro Val His Met
 1340 1345 1350

Gly Gln Tyr Leu Ile Glu Glu Val Ala Pro Met Lys Arg Leu Leu
 1355 1360 1365

Lys Leu Gly Asn Lys Val Val Tyr
 1370 1375

<210> 4

<211> 1143

<212> DNA

<213> Kaposi's sarcoma-associated herpesvirus

<400> 4

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tcatccgtga actcgtcaga ccgctccacg agtttcctgc ttaacctcag gaacgcccag      180
gaaaagatgc tgaatgtggt cagttacgtg tgtgcggacc accgagaaga ttccacacctg      240
caagacgcac tagtgtcctg tccttggtac agactgcaca ttccgacgta catcaccatc      300
gacgaatcca tcaaaaccac caccaacctc tttatggagg gggcattcga caccgaacta      360
atgggcgagg gagcagcgtc gtcaaagtct acgctttacc gcgtaggtgg tgacgcagcg      420
ctgacacagt ttgacatgtg tcgggtagac accaccgccc aggaggttca gaagtgcctt      480
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actggcgtgg gcgccgttgt cagcagtagt cagactccca ccagaagcct catattgggc      600
atggagcatt tcttcctgct cgacctcact ggccgagctg cttacgagat agcgtcctgc      660
gcatgcacga tgattaaggc gatcgtctgt ctccacacca caattgagcg cgtgaacgcg      720
gcggtcgaag gcaacagcag ccaagattct ggggtggcca ttgcaaccgt ccttaacgaa      780
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ccaatttaca tgttggggagg cgagaaatcc tccgcgtttg agacattcat ctacgctctg      900
aactccggca ccctgagcgc cagccagacg gtggtgtcca acaccatcaa aatatcattt      960
gacccggtga cctacctggt agaacaggct cgcgcgatca agtgcgtccc gcttagggat     1020
ggagggcagt catacagcgc caagcaaaaag cacatgtcgg acgacttact tgtggcagtt     1080
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taa                                                                    1143
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<210> 5

<211> 380

<212> PRT

<213> Kaposi's sarcoma-associated herpesvirus

<400> 5

Ser Ile Arg Gly Gln Thr Phe Asn Leu Leu Tyr Val Asp Glu Ala Asn
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Phe Ile Lys Lys Asp Ala Leu Pro Ala Ile Leu Gly Phe Met Leu Gln
20 25 30

Lys Asp Ala Lys Leu Ile Phe Ile Ser Ser Val Asn Ser Ser Asp Arg
35 40 45

Ser Thr Ser Phe Leu Leu Asn Leu Arg Asn Ala Gln Glu Lys Met Leu
50 55 60

Asn Val Val Ser Tyr Val Cys Ala Asp His Arg Glu Asp Phe His Leu
65 70 75 80

Gln Asp Ala Leu Val Ser Cys Pro Cys Tyr Arg Leu His Ile Pro Thr
85 90 95

Tyr Ile Thr Ile Asp Glu Ser Ile Lys Thr Thr Thr Asn Leu Phe Met
100 105 110

Glu Gly Ala Phe Asp Thr Glu Leu Met Gly Glu Gly Ala Ala Ser Ser
115 120 125

Asn Ala Thr Leu Tyr Arg Val Val Gly Asp Ala Ala Leu Thr Gln Phe
130 135 140

Asp Met Cys Arg Val Asp Thr Thr Ala Gln Glu Val Gln Lys Cys Leu
145 150 155 160

Gly Lys Gln Leu Phe Val Tyr Ile Asp Pro Ala Tyr Thr Asn Asn Thr
165 170 175

Glu Ala Ser Gly Thr Gly Val Gly Ala Val Val Thr Ser Thr Gln Thr
180 185 190

Pro Thr Arg Ser Leu Ile Leu Gly Met Glu His Phe Phe Leu Arg Asp
195 200 205

Leu Thr Gly Ala Ala Ala Tyr Glu Ile Ala Ser Cys Ala Cys Thr Met
210 215 220

Ile Lys Ala Ile Ala Val Leu His Thr Thr Ile Glu Arg Val Asn Ala
225 230 235 240

Ala Val Glu Gly Asn Ser Ser Gln Asp Ser Gly Val Ala Ile Ala Thr
245 250 255

Val Leu Asn Glu Ile Cys Pro Leu Pro Ile His Phe Leu His Tyr Thr
260 265 270

Asp Lys Ser Ser Ala Leu Gln Trp Pro Ile Tyr Met Leu Gly Gly Glu
275 280 285

Lys Ser Ser Ala Phe Glu Thr Phe Ile Tyr Ala Leu Asn Ser Gly Thr
290 295 300

Leu Ser Ala Ser Gln Thr Val Val Ser Asn Thr Ile Lys Ile Ser Phe
305 310 315 320

Asp Pro Val Thr Tyr Leu Val Glu Gln Val Arg Ala Ile Lys Cys Val
325 330 335

Pro Leu Arg Asp Gly Gly Gln Ser Tyr Ser Ala Lys Gln Lys His Met
340 345 350

Ser Asp Asp Leu Leu Val Ala Val Val Met Ala His Phe Met Ala Thr
355 360 365

Asp Asp Arg His Met Tyr Lys Pro Ile Ser Pro Gln
370 375 380

<210> 6
 <211> 234
 <212> DNA
 <213> Kaposi's sarcoma-associated herpesvirus

<400> 6
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 ctcggtctcg ctgactctct atgtcacaaa acagaaagac tctgcctgct gatggacctg 180
 gtgggcacgg agtgctttgc gaggggtgtgc cgcctagaca ccggtgcgaa atga 234

<210> 7
 <211> 77
 <212> PRT
 <213> Kaposi's sarcoma-associated herpesvirus

<400> 7
 Met Gly Glu Pro Val Asp Pro Gly His Val Val Asn Glu Lys Asp Phe
 1 5 10 15
 Glu Glu Cys Glu Gln Phe Phe Ser Gln Pro Leu Arg Glu Gln Val Val
 20 25 30
 Ala Gly Val Arg Ala Leu Asp Gly Leu Gly Leu Ala Asp Ser Leu Cys
 35 40 45
 His Lys Thr Glu Arg Leu Cys Leu Leu Met Asp Leu Val Gly Thr Glu
 50 55 60
 Cys Phe Ala Arg Val Cys Arg Leu Asp Thr Gly Ala Lys
 65 70 75

<210> 8
 <211> 585
 <212> DNA
 <213> Kaposi's sarcoma-associated herpesvirus

<400> 8
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 ccggagagcg tcatctgcga actaacgggt aactgcatgc tcggcaacat tcaagagggc 180
 cagtttttag ggccggtacc gtatcggact ttggataacc aggttgacag ggacgcatat 240
 cacgggatgc tagcgtgtct gaaacgggac attgtgcggt atttgcagac atggccggac 300
 accaccgtaa tcgtgcagga aatagccctg ggggacggcg tcaccgacac catctcggcc 360
 attatagatg aaacattcgg tgagtgtctt cccgtactgg gggaggccca aggcgggtac 420
 gccctggctc gtagcatgta tctgcacgtt atcgtctcca tctattcgac aaaaacggtg 480
 tacaacagta tgctatttaa atgcacaaag aataaaaagt acgactgcat tgccaagcgg 540
 gtgcggacaa aatggatgcg catgctatca acgaaagata cgtag 585

<210> 9
 <211> 194
 <212> PRT
 <213> Kaposi's sarcoma-associated herpesvirus

<400> 9
 Met Lys Ser Val Ala Ser Pro Leu Cys Gln Phe His Gly Val Phe Cys
 1 5 10 15
 Leu Tyr Gln Cys Arg Gln Cys Leu Ala Tyr His Val Cys Asp Gly Gly
 20 25 30
 Ala Glu Cys Val Leu Leu His Thr Pro Glu Ser Val Ile Cys Glu Leu
 35 40 45

Thr Gly Asn Cys Met Leu Gly Asn Ile Gln Glu Gly Gln Phe Leu Gly
 50 55 60

Pro Val Pro Tyr Arg Thr Leu Asp Asn Gln Val Asp Arg Asp Ala Tyr
 65 70 75 80

His Gly Met Leu Ala Cys Leu Lys Arg Asp Ile Val Arg Tyr Leu Gln
 85 90 95

Thr Trp Pro Asp Thr Thr Val Ile Val Gln Glu Ile Ala Leu Gly Asp
 100 105 110

Gly Val Thr Asp Thr Ile Ser Ala Ile Ile Asp Glu Thr Phe Gly Glu
 115 120 125

Cys Leu Pro Val Leu Gly Glu Ala Gln Gly Gly Tyr Ala Leu Val Cys
 130 135 140

Ser Met Tyr Leu His Val Ile Val Ser Ile Tyr Ser Thr Lys Thr Val
 145 150 155 160

Tyr Asn Ser Met Leu Phe Lys Cys Thr Lys Asn Lys Lys Tyr Asp Cys
 165 170 175

Ile Ala Lys Arg Val Arg Thr Lys Trp Met Arg Met Leu Ser Thr Lys
 180 185 190

Asp Thr

<210> 10

<211> 939

<212> DNA

<213> Kaposi's sarcoma-associated herpesvirus

<400> 10
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tatgacctg agctggtaac cagctacgca ctgagcgtgc ctgcttaciaa tgtgtctgtg 180
gctatcttgc tgcataaagt catgggaccg tgtgtggctg tgggaattaa cggagaaatg 240
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aatcatgtg ggaccgggaa tggagtgact agggtcactg gaaacagaaa ttttctgggt 780
cttctgttcg atcccattgt ccagagcagg gtaacagctc tgaagataac tagccaccca 840
acccccacgc acgtcgagaa tgtgctaaca ggagtgtcgc acgacggcac cttggtgccg 900
tccgtccaag gcacctggg tcctcttacg aatgtctga 939

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<210> 11

<211> 312

<212> PRT

<213> Kaposi's sarcoma-associated herpesvirus

<400> 11

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Met Ala Ser Arg Arg Arg Lys Leu Arg Asn Phe Leu Asn Lys Glu Cys
1           5           10          15

```

```

Ile Trp Thr Val Asn Pro Met Ser Gly Asp His Ile Lys Val Phe Asn
20          25          30

```

```

Ala Cys Thr Ser Ile Ser Pro Val Tyr Asp Pro Glu Leu Val Thr Ser
35          40          45

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Tyr Ala Leu Ser Val Pro Ala Tyr Asn Val Ser Val Ala Ile Leu Leu
50 55 60

His Lys Val Met Gly Pro Cys Val Ala Val Gly Ile Asn Gly Glu Met
65 70 75 80

Ile Met Tyr Val Val Ser Gln Cys Val Ser Val Arg Pro Val Pro Gly
85 90 95

Arg Asp Gly Met Ala Leu Ile Tyr Phe Gly Gln Phe Leu Glu Glu Ala
100 105 110

Ser Gly Leu Arg Phe Pro Tyr Ile Ala Pro Pro Pro Ser Arg Glu His
115 120 125

Val Pro Asp Leu Thr Arg Gln Glu Leu Val His Thr Ser Gln Val Val
130 135 140

Arg Arg Gly Asp Leu Thr Asn Cys Thr Met Gly Leu Glu Phe Arg Asn
145 150 155 160

Val Asn Pro Phe Val Trp Leu Gly Gly Gly Ser Val Trp Leu Leu Phe
165 170 175

Leu Gly Val Asp Tyr Met Ala Phe Cys Pro Gly Val Asp Gly Met Pro
180 185 190

Ser Leu Ala Arg Val Ala Ala Leu Leu Thr Arg Cys Asp His Pro Asp
195 200 205

Cys Val His Cys His Gly Leu Arg Gly His Val Asn Val Phe Arg Gly
210 215 220

Tyr Cys Ser Ala Gln Ser Pro Gly Leu Ser Asn Ile Cys Pro Cys Ile
225 230 235 240

Lys Ser Cys Gly Thr Gly Asn Gly Val Thr Arg Val Thr Gly Asn Arg
245 250 255

Asn Phe Leu Gly Leu Leu Phe Asp Pro Ile Val Gln Ser Arg Val Thr
260 265 270

Ala Leu Lys Ile Thr Ser His Pro Thr Pro Thr His Val Glu Asn Val
 275 280 285

Leu Thr Gly Val Leu Asp Asp Gly Thr Leu Val Pro Ser Val Gln Gly
 290 295 300

Thr Leu Gly Pro Leu Thr Asn Val
 305 310

<210> 12

<211> 86

<212> DNA

<213> Kaposi's sarcoma-associated herpesvirus

<400> 12
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 aggagggcag ctgtatcgct atttga 86

<210> 13

<211> 28

<212> PRT

<213> Kaposi's sarcoma-associated herpesvirus

<400> 13

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Ala Asn Ile Asn Arg Arg Ala Ala Val Ser Leu Phe
 20 25

<210> 14
 <211> 1743
 <212> DNA
 <213> Kaposi's sarcoma-associated herpesvirus

<400> 14
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<210> 15

<211> 580

<212> PRT

<213> Kaposi's sarcoma-associated herpesvirus

<400> 15

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Lys Ala Ser Val Thr Arg Gly Gly Arg Trp Asp Leu Gly Ser Ser Asp
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Asp Glu Ser Ser Thr Ser Thr Thr Ser Thr Asp Met Asp Asp Leu Pro
 35 40 45

Glu Glu Arg Lys Pro Leu Thr Gly Lys Ser Val Lys Thr Ser Tyr Ile
 50 55 60

Tyr Asp Val Pro Thr Val Pro Thr Ser Lys Pro Trp His Leu Met His
 65 70 75 80

Asp Asn Ser Leu Tyr Ala Thr Pro Arg Phe Pro Pro Arg Pro Leu Ile
 85 90 95

Arg His Pro Ser Glu Lys Gly Ser Ile Phe Ala Ser Arg Leu Ser Ala
100 105 110

Thr Asp Asp Asp Ser Gly Asp Tyr Ala Pro Met Asp Arg Phe Ala Phe
115 120 125

Gln Ser Pro Arg Val Cys Gly Arg Pro Pro Leu Pro Pro Pro Asn His
130 135 140

Pro Pro Pro Ala Thr Arg Pro Ala Asp Ala Ser Met Gly Asp Val Gly
145 150 155 160

Trp Ala Asp Leu Gln Gly Leu Lys Arg Thr Pro Lys Gly Phe Leu Lys
165 170 175

Thr Ser Thr Lys Gly Gly Ser Leu Lys Ala Arg Gly Arg Asp Val Gly
180 185 190

Asp Arg Leu Arg Asp Gly Gly Phe Ala Phe Ser Pro Arg Gly Val Lys
195 200 205

Ser Ala Ile Gly Gln Asn Ile Lys Ser Trp Leu Gly Ile Gly Glu Ser
210 215 220

Ser Ala Thr Ala Val Pro Val Thr Thr Gln Leu Met Val Pro Val His
225 230 235 240

Leu Ile Arg Thr Pro Val Thr Val Asp Tyr Arg Asn Val Tyr Leu Leu
245 250 255

Tyr Leu Glu Gly Val Met Gly Val Gly Lys Ser Thr Leu Val Asn Ala
260 265 270

Val Cys Gly Ile Leu Pro Gln Glu Arg Val Thr Ser Phe Pro Glu Pro
275 280 285

Met Val Tyr Trp Thr Arg Ala Phe Thr Asp Cys Tyr Lys Glu Ile Ser
290 295 300

His Leu Met Lys Ser Gly Lys Ala Gly Asp Pro Leu Thr Ser Ala Lys
305 310 315 320

Ile Tyr Ser Cys Gln Asn Lys Phe Ser Leu Pro Phe Arg Thr Asn Ala
 325 330 335

Thr Ala Ile Leu Arg Met Met Gln Pro Trp Asn Val Gly Gly Gly Ser
 340 345 350

Gly Arg Gly Thr His Trp Cys Val Phe Asp Arg His Leu Leu Ser Pro
 355 360 365

Ala Val Val Phe Pro Leu Met His Leu Lys His Gly Arg Leu Ser Phe
 370 375 380

Asp His Phe Phe Gln Leu Leu Ser Ile Phe Arg Ala Thr Glu Gly Asp
 385 390 395 400

Val Val Ala Ile Leu Thr Leu Ser Ser Ala Glu Ser Leu Arg Arg Val
 405 410 415

Arg Ala Arg Gly Arg Lys Asn Asp Gly Thr Val Glu Gln Asn Tyr Ile
 420 425 430

Arg Glu Leu Ala Trp Ala Tyr His Ala Val Tyr Cys Ser Trp Ile Met
 435 440 445

Leu Gln Tyr Ile Thr Val Glu Gln Met Val Gln Leu Cys Val Gln Thr
 450 455 460

Thr Asn Ile Pro Glu Ile Cys Phe Arg Ser Val Arg Leu Ala His Lys
 465 470 475 480

Glu Glu Thr Leu Lys Asn Leu His Glu Gln Ser Met Leu Pro Met Ile
 485 490 495

Thr Gly Val Leu Asp Pro Val Arg His His Pro Val Val Ile Glu Leu
 500 505 510

Cys Phe Cys Phe Phe Thr Glu Leu Arg Lys Leu Gln Phe Ile Val Ala
 515 520 525

Asp Ala Asp Lys Phe His Asp Asp Val Cys Gly Leu Trp Thr Glu Ile
 530 535 540

Tyr Arg Gln Ile Leu Ser Asn Pro Ala Ile Lys Pro Arg Ala Ile Asn
 545 550 555 560

Trp Pro Ala Leu Glu Ser Gln Ser Lys Ala Val Asn His Leu Glu Glu
 565 570 575

Thr Cys Arg Val
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<210> 16

<211> 2193

<212> DNA

<213> Kaposi's sarcoma-associated herpesvirus

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 aattggcaaa atctgttgaa tgtgatcacg gagccggccc tgacagagtt gtggacctcc 240
 gccgaagtcg ccgaggacct cagggttaact ctgaaaaaga ggcaaagtct ttttttcccc 300
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<210> 17

<211> 730

<212> PRT

<213> Kaposi's sarcoma-associated herpesvirus

<400> 17

Met Gln Gly Leu Ala Phe Leu Ala Ala Leu Ala Cys Trp Arg Cys Ile
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Ser Leu Thr Cys Gly Ala Thr Gly Ala Leu Pro Thr Thr Ala Thr Thr
 20 25 30

Ile Thr Arg Ser Ala Thr Gln Leu Ile Asn Gly Arg Thr Asn Leu Ser
 35 40 45

Ile Glu Leu Glu Phe Asn Gly Thr Ser Phe Phe Leu Asn Trp Gln Asn
 50 55 60

Leu Leu Asn Val Ile Thr Glu Pro Ala Leu Thr Glu Leu Trp Thr Ser
 65 70 75 80

Ala Glu Val Ala Glu Asp Leu Arg Val Thr Leu Lys Lys Arg Gln Ser
 85 90 95

Leu Phe Phe Pro Asn Lys Thr Val Val Ile Ser Gly Asp Gly His Arg
 100 105 110

Tyr Thr Cys Glu Val Pro Thr Ser Ser Gln Thr Tyr Asn Ile Thr Lys
 115 120 125

Gly Phe Asn Tyr Ser Ala Leu Pro Gly His Leu Gly Gly Phe Gly Ile
 130 135 140

Asn Ala Arg Leu Val Leu Gly Asp Ile Phe Ala Ser Lys Trp Ser Leu
 145 150 155 160

Phe Ala Arg Asp Thr Pro Glu Tyr Arg Val Phe Tyr Pro Met Asn Val
 165 170 175

Met Ala Val Lys Phe Ser Ile Ser Ile Gly Asn Asn Glu Ser Gly Val
 180 185 190

Ala Leu Tyr Gly Val Val Ser Glu Asp Phe Val Val Val Thr Leu His
 195 200 205

Asn Arg Ser Lys Glu Ala Asn Glu Thr Ala Ser His Leu Leu Phe Gly
 210 215 220

Leu Pro Asp Ser Leu Pro Ser Leu Lys Gly His Ala Thr Tyr Asp Glu
 225 230 235 240

Leu Thr Phe Ala Arg Asn Ala Lys Tyr Ala Leu Val Ala Ile Leu Pro
 245 250 255

Lys Asp Ser Tyr Gln Thr Leu Leu Thr Glu Asn Tyr Thr Arg Ile Phe
 260 265 270

Leu Asn Met Thr Glu Ser Thr Pro Leu Glu Phe Thr Arg Thr Ile Gln
 275 280 285

Thr Arg Ile Val Ser Ile Glu Ala Arg Arg Ala Cys Ala Ala Gln Glu
 290 295 300

Ala Ala Pro Asp Ile Phe Leu Val Leu Phe Gln Met Leu Val Ala His
 305 310 315 320

Phe Leu Val Ala Arg Gly Ile Ala Glu His Arg Phe Val Glu Val Asp
 325 330 335

Cys Val Cys Arg Gln Tyr Ala Glu Leu Tyr Phe Leu Arg Arg Ile Ser
 340 345 350

Arg Leu Cys Met Pro Thr Phe Thr Thr Val Gly Tyr Asn His Thr Thr
 355 360 365

Leu Gly Ala Val Ala Ala Thr Gln Ile Ala Arg Val Ser Ala Thr Lys
 370 375 380

Leu Ala Ser Leu Pro Arg Ser Ser Gln Glu Thr Val Leu Ala Met Val
 385 390 395 400

Gln Leu Gly Ala Arg Asp Gly Ala Val Pro Ser Ser Ile Leu Glu Gly
 405 410 415

Ile Ala Met Val Val Glu His Met Tyr Thr Ala Tyr Thr Tyr Val Tyr
 420 425 430

Thr Leu Gly Asp Thr Glu Arg Lys Leu Met Leu Asp Ile His Thr Val
 435 440 445

Leu Thr Asp Ser Cys Pro Pro Lys Asp Ser Gly Val Ser Glu Lys Leu
 450 455 460

Leu Arg Thr Tyr Leu Met Phe Thr Ser Met Cys Thr Asn Ile Glu Leu
 465 470 475 480

Gly Glu Met Ile Ala Arg Phe Ser Lys Pro Asp Ser Leu Asn Ile Tyr
 485 490 495

Arg Ala Phe Ser Pro Cys Phe Leu Gly Leu Arg Tyr Asp Leu His Pro
 500 505 510

Ala Lys Leu Arg Ala Glu Ala Pro Gln Ser Ser Ala Leu Thr Arg Thr
 515 520 525

Ala Val Ala Arg Gly Thr Ser Gly Phe Ala Glu Leu Leu His Ala Leu
 530 535 540

His Leu Asp Ser Leu Asn Leu Ile Pro Ala Ile Asn Cys Ser Lys Ile
 545 550 555 560

Thr Ala Asp Lys Ile Ile Ala Thr Val Pro Leu Pro His Val Thr Tyr
 565 570 575

Ile Ile Ser Ser Glu Ala Leu Ser Asn Ala Val Val Tyr Glu Val Ser
 580 585 590

Glu Ile Phe Leu Lys Ser Ala Met Phe Ile Ser Ala Ile Lys Pro Asp
 595 600 605

Cys Ser Gly Phe Asn Phe Ser Gln Ile Asp Arg His Ile Pro Ile Val
 610 615 620

Tyr Asn Ile Ser Thr Pro Arg Arg Gly Cys Pro Leu Cys Asp Ser Val
 625 630 635 640

Ile Met Ser Tyr Asp Glu Ser Asp Gly Leu Gln Ser Leu Met Tyr Val
 645 650 655

Thr Asn Glu Arg Val Gln Thr Asn Leu Phe Leu Asp Lys Ser Pro Phe
660 665 670

Phe Asp Asn Asn Asn Leu His Ile His Tyr Leu Trp Leu Arg Asp Asn
675 680 685

Gly Thr Val Val Glu Ile Arg Gly Met Tyr Arg Arg Arg Ala Ala Ser
690 695 700

Ala Leu Phe Leu Ile Leu Ser Phe Ile Gly Phe Ser Gly Val Ile Tyr
705 710 715 720

Phe Leu Tyr Arg Leu Phe Ser Ile Leu Tyr
725 730

<210> 18

<211> 1215

<212> DNA

<213> Kaposi's sarcoma-associated herpesvirus

<400> 18
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<210> 19

<211> 404

<212> PRT

<213> Kaposi's sarcoma-associated herpesvirus

<400> 19

Met Leu Arg Val Pro Asp Val Lys Ala Ser Leu Val Glu Gly Ala Ala
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Arg Leu Ser Thr Gly Glu Arg Val Phe His Val Leu Thr Ser Pro Ala
 20 25 30

Val Ala Ala Met Val Gly Val Ser Asn Pro Glu Val Pro Met Pro Leu
 35 40 45

Leu Phe Glu Lys Phe Gly Thr Pro Asp Ser Ser Thr Leu Pro Leu Tyr
 50 55 60

Ala Ala Arg His Pro Glu Leu Ser Leu Leu Arg Ile Met Leu Ser Pro
 65 70 75 80

His Pro Tyr Ala Leu Arg Ser His Leu Cys Val Gly Glu Glu Thr Ala
 85 90 95

Ser Leu Gly Val Tyr Leu His Ser Lys Pro Val Val Arg Gly His Glu
100 105 110

Phe Glu Asp Thr Gln Ile Leu Pro Glu Cys Arg Leu Ala Ile Thr Ser
115 120 125

Asp Gln Ser Tyr Thr Asn Phe Lys Ile Ile Asp Leu Pro Ala Gly Cys
130 135 140

Arg Arg Val Pro Ile His Ala Ala Asn Lys Arg Val Val Ile Asp Glu
145 150 155 160

Ala Ala Asn Arg Ile Lys Val Phe Asp Pro Glu Ser Pro Leu Pro Arg
165 170 175

His Pro Ile Thr Pro Arg Ala Gly Gln Thr Arg Ser Ile Leu Lys His
180 185 190

Asn Ile Ala Gln Val Cys Glu Arg Asp Ile Val Ser Leu Asn Thr Asp
195 200 205

Asn Glu Ala Ala Ser Met Phe Tyr Met Ile Gly Leu Arg Arg Pro Arg
210 215 220

Leu Gly Glu Ser Pro Val Cys Asp Phe Asn Thr Val Thr Ile Met Glu
225 230 235 240

Arg Ala Asn Asn Ser Ile Thr Phe Leu Pro Lys Leu Lys Leu Asn Arg
245 250 255

Leu Gln His Leu Phe Leu Lys His Val Leu Leu Arg Ser Met Gly Leu
260 265 270

Glu Asn Ile Val Ser Cys Phe Ser Ser Leu Tyr Gly Ala Glu Leu Ala
275 280 285

Pro Ala Lys Thr His Glu Arg Glu Phe Phe Gly Ala Leu Leu Glu Arg
290 295 300

Leu Lys Arg Arg Val Glu Asp Ala Val Phe Cys Leu Asn Thr Ile Glu
305 310 315 320

Asp Phe Pro Phe Arg Glu Pro Ile Arg Gln Pro Pro Asp Cys Ser Lys
 325 330 335

Val Leu Ile Glu Ala Met Glu Lys Tyr Phe Met Met Cys Ser Pro Lys
 340 345 350

Asp Arg Gln Ser Ala Ala Trp Leu Gly Ala Gly Val Val Glu Leu Ile
 355 360 365

Cys Asp Gly Asn Pro Leu Ser Glu Val Leu Gly Phe Leu Ala Lys Tyr
 370 375 380

Met Pro Ile Gln Lys Glu Cys Thr Gly Asn Leu Leu Lys Ile Tyr Ala
 385 390 395 400

Leu Leu Thr Val

<210> 20

<211> 2259

<212> DNA

<213> Kaposi's sarcoma-associated herpesvirus

<400> 20

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| cagaccacgt gttatcaagc gacttgggaa tcacagctgg aaatattctg ctgtctggcc | 120 |
| accaactcgc acctgcaggc agagctgacc ttagaaggtc ttgataagat gatgcagccc | 180 |
| gagcccaact ttttcgcctg cagagcgata cgcagactac tcctggggga acgcctccac | 240 |
| cctttttatac atcaagaagg gactcttttg ggaaaagtgg gtcgacggta cagcggcgaa | 300 |
| ggtttaataa ttgacggtgg tggagtgttt acgcgcggac agatagacac cgacaactac | 360 |
| ctacctgcgg tgggatcatg ggaacttacc gatgattgtg ataaaccctg cgaattcagg | 420 |
| gagctacgct cgctgtatct tcccgcgcta ctaacgtgca ccatatgtta caaagccatg | 480 |
| ttcaggatag tgtgcaggta cctggagttc tgggagttcg aacagtgttt tcatgcgttt | 540 |
| ctggcggtgt tgccccatag tctacaaccc acaatctatc aaaattatct tgcactcctg | 600 |

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| gagagcctga agcatctctc gttttcaata atgccacccg catccccaga cgcacagcta | 660 |
| catttttttaa agtttaacat cagcagcttc atggccacgt gggggtggca cggagagctg | 720 |
| gtctcgctgc gccgtgccat cgctcacaac gtagagcgac tgcccaccgt gctgaagaac | 780 |
| ctgtcgaaac agagtaagca ccaggacgtc aagggttaacg gacgggatct ggtgggcttt | 840 |
| cagctggctc taaaccagct cgtgtcccgt ctgcacgtaa aaatccaacg caaggacccc | 900 |
| ggaccaaagc catacagggg ggtcgtcagt accccagatt gtacctacta tctagtgtat | 960 |
| ccgggcacac cggccatcta cagactcgtc atgtgtatgg cagtggcaga ctgcatcggc | 1020 |
| cactcgtgca gcggactgca cccctgcgca aacttttttag gcaccacga gacaccgcgt | 1080 |
| ctcctggcgg cgacgctttc aagaatccgg tacgcgccga aagaccggcg agcagccatg | 1140 |
| aaaggaaatt tgcaggcgtg cttccaacga tacgcggcca cggacgcgcg gactctgggc | 1200 |
| agctctacag tgtcagacat gctggaaccc acaaaacacg tcagtttgga aaacttcaag | 1260 |
| atcaccatat tcaacaccaa catggtgatt aacactaaga taagctgccg cgttcctaac | 1320 |
| accctgcaaa agactatttt aaacatcccc agattgacca acaattttgt tatacgaaaag | 1380 |
| tactccgtaa aggaaccttc ttttaccata agcgtgtttt tttccgacaa catgtgtcaa | 1440 |
| ggcaccgcaa taaacatcaa catcagtggg gacatgctgc actttctctt cgcaatgggt | 1500 |
| acgctgaaat gctttctgcc aatcaggcac atatttcctg tatcgatagc aaattggaac | 1560 |
| tccacgttgg acctgcacgg actggaaaac cagtacatgg tgagaatggg gcgaaaaaac | 1620 |
| gtatttttga ccacaaactt tccatctgtg gtctccagca aggatgggct aaacgtgtcc | 1680 |
| tggtttaagg ccgcgacagc cagcatttct aaagtgtacg ggcagcctct tgtggaacag | 1740 |
| attcgccacg agctggcgcc cattctcacg gaccagcacg cgcgcatcga cggaaacaaa | 1800 |
| aatagaatat tctccctact tgagcacaga aaccgttccc aaatacagac gctacacaaa | 1860 |
| aggttcctgg agtgtctggt ggaatgctgt tcgtttctca ggcttgacgt ggcttgcat | 1920 |
| aggcgagccg ccgcccgggg cctgtttgac ttctcaaaga agataatcag tcacactaaa | 1980 |
| agcaaacacg agtgcgcagt actgggatat aaaaagtgtg acctaatccc gaaaatctat | 2040 |
| gcccgaacaa agaagaccag gctagacgag ttggggccga atgcaaactt catttcgttc | 2100 |
| gtcgccacca cgggtcatcg gttcgccgct ctaaagccac aaattgtccg tcacgccatt | 2160 |
| cgcaaactag gcctgcactg gcgccaccga acggccgcgt ccaacgagca gacaccgcca | 2220 |

gccgatcccc gcgtacgttg cgtccgtccg ctggtctaa

2259

<210> 21

<211> 752

<212> PRT

<213> Kaposi's sarcoma-associated herpesvirus

<400> 21

Met Ala Ala Leu Glu Gly Pro Leu Leu Leu Pro Pro Ser Ala Ser Leu
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Thr Thr Ser Pro Gln Thr Thr Cys Tyr Gln Ala Thr Trp Glu Ser Gln
20 25 30

Leu Glu Ile Phe Cys Cys Leu Ala Thr Asn Ser His Leu Gln Ala Glu
35 40 45

Leu Thr Leu Glu Gly Leu Asp Lys Met Met Gln Pro Glu Pro Thr Phe
50 55 60

Phe Ala Cys Arg Ala Ile Arg Arg Leu Leu Leu Gly Glu Arg Leu His
65 70 75 80

Pro Phe Ile His Gln Glu Gly Thr Leu Leu Gly Lys Val Gly Arg Arg
85 90 95

Tyr Ser Gly Glu Gly Leu Ile Ile Asp Gly Gly Gly Val Phe Thr Arg
100 105 110

Gly Gln Ile Asp Thr Asp Asn Tyr Leu Pro Ala Val Gly Ser Trp Glu
115 120 125

Leu Thr Asp Asp Cys Asp Lys Pro Cys Glu Phe Arg Glu Leu Arg Ser
130 135 140

Leu Tyr Leu Pro Ala Leu Leu Thr Cys Thr Ile Cys Tyr Lys Ala Met
145 150 155 160

Phe Arg Ile Val Cys Arg Tyr Leu Glu Phe Trp Glu Phe Glu Gln Cys
165 170 175

Phe His Ala Phe Leu Ala Val Leu Pro His Ser Leu Gln Pro Thr Ile
180 185 190

Tyr Gln Asn Tyr Phe Ala Leu Leu Glu Ser Leu Lys His Leu Ser Phe
195 200 205

Ser Ile Met Pro Pro Ala Ser Pro Asp Ala Gln Leu His Phe Leu Lys
210 215 220

Phe Asn Ile Ser Ser Phe Met Ala Thr Trp Gly Trp His Gly Glu Leu
225 230 235 240

Val Ser Leu Arg Arg Ala Ile Ala His Asn Val Glu Arg Leu Pro Thr
245 250 255

Val Leu Lys Asn Leu Ser Lys Gln Ser Lys His Gln Asp Val Lys Val
260 265 270

Asn Gly Arg Asp Leu Val Gly Phe Gln Leu Ala Leu Asn Gln Leu Val
275 280 285

Ser Arg Leu His Val Lys Ile Gln Arg Lys Asp Pro Gly Pro Lys Pro
290 295 300

Tyr Arg Val Val Val Ser Thr Pro Asp Cys Thr Tyr Tyr Leu Val Tyr
305 310 315 320

Pro Gly Thr Pro Ala Ile Tyr Arg Leu Val Met Cys Met Ala Val Ala
325 330 335

Asp Cys Ile Gly His Ser Cys Ser Gly Leu His Pro Cys Ala Asn Phe
340 345 350

Leu Gly Thr His Glu Thr Pro Arg Leu Leu Ala Ala Thr Leu Ser Arg
355 360 365

Ile Arg Tyr Ala Pro Lys Asp Arg Arg Ala Ala Met Lys Gly Asn Leu
370 375 380

Gln Ala Cys Phe Gln Arg Tyr Ala Ala Thr Asp Ala Arg Thr Leu Gly
 385 390 395 400

Ser Ser Thr Val Ser Asp Met Leu Glu Pro Thr Lys His Val Ser Leu
 405 410 415

Glu Asn Phe Lys Ile Thr Ile Phe Asn Thr Asn Met Val Ile Asn Thr
 420 425 430

Lys Ile Ser Cys His Val Pro Asn Thr Leu Gln Lys Thr Ile Leu Asn
 435 440 445

Ile Pro Arg Leu Thr Asn Asn Phe Val Ile Arg Lys Tyr Ser Val Lys
 450 455 460

Glu Pro Ser Phe Thr Ile Ser Val Phe Phe Ser Asp Asn Met Cys Gln
 465 470 475 480

Gly Thr Ala Ile Asn Ile Asn Ile Ser Gly Asp Met Leu His Phe Leu
 485 490 495

Phe Ala Met Gly Thr Leu Lys Cys Phe Leu Pro Ile Arg His Ile Phe
 500 505 510

Pro Val Ser Ile Ala Asn Trp Asn Ser Thr Leu Asp Leu His Gly Leu
 515 520 525

Glu Asn Gln Tyr Met Val Arg Met Gly Arg Lys Asn Val Phe Trp Thr
 530 535 540

Thr Asn Phe Pro Ser Val Val Ser Ser Lys Asp Gly Leu Asn Val Ser
 545 550 555 560

Trp Phe Lys Ala Ala Thr Ala Thr Ile Ser Lys Val Tyr Gly Gln Pro
 565 570 575

Leu Val Glu Gln Ile Arg His Glu Leu Ala Pro Ile Leu Thr Asp Gln
 580 585 590

His Ala Arg Ile Asp Gly Asn Lys Asn Arg Ile Phe Ser Leu Leu Glu
 595 600 605

His Arg Asn Arg Ser Gln Ile Gln Thr Leu His Lys Arg Phe Leu Glu
610 615 620

Cys Leu Val Glu Cys Cys Ser Phe Leu Arg Leu Asp Val Ala Cys Ile
625 630 635 640

Arg Arg Ala Ala Ala Arg Gly Leu Phe Asp Phe Ser Lys Lys Ile Ile
645 650 655

Ser His Thr Lys Ser Lys His Glu Cys Ala Val Leu Gly Tyr Lys Lys
660 665 670

Cys Asn Leu Ile Pro Lys Ile Tyr Ala Arg Asn Lys Lys Thr Arg Leu
675 680 685

Asp Glu Leu Gly Arg Asn Ala Asn Phe Ile Ser Phe Val Ala Thr Thr
690 695 700

Gly His Arg Phe Ala Ala Leu Lys Pro Gln Ile Val Arg His Ala Ile
705 710 715 720

Arg Lys Leu Gly Leu His Trp Arg His Arg Thr Ala Ala Ser Asn Glu
725 730 735

Gln Thr Pro Pro Ala Asp Pro Arg Val Arg Cys Val Arg Pro Leu Val
740 745 750

<210> 22

<211> 364

<212> DNA

<213> Kaposi's sarcoma-associated herpesvirus

<400> 22

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| atggtacgtc caaccgaggc cgagggttaag aaatccctga gcaggcttcc agcagcacgc | 60 |
| aaaagagcag gtaaccgggc ccacctggcc acctaccgcc ggctcctcaa gtactccacc | 120 |
| ctgcccgatc tatggcggtt tctaagtagc cggccccaga accctcccct tggacaccac | 180 |
| agattattct ttgaggtgac tctagggcac agaattgccg actgcgtaat tctggtatcg | 240 |

ggtagggcatc agcccgatg ttacgttgta gagctcaaga cttgtctgag tcaccagctg 300
atcccaacca acaccgtgag aacgtcacag cgagctcaag gcctgtgcca actctccgac 360
tcga 364

<210> 23

<211> 121

<212> PRT

<213> Kaposi's sarcoma-associated herpesvirus

<400> 23

Met Val Arg Pro Thr Glu Ala Glu Val Lys Lys Ser Leu Ser Arg Leu
1 5 10 15

Pro Ala Ala Arg Lys Arg Ala Gly Asn Arg Ala His Leu Ala Thr Tyr
20 25 30

Arg Arg Leu Leu Lys Tyr Ser Thr Leu Pro Asp Leu Trp Arg Phe Leu
35 40 45

Ser Ser Arg Pro Gln Asn Pro Pro Leu Gly His His Arg Leu Phe Phe
50 55 60

Glu Val Thr Leu Gly His Arg Ile Ala Asp Cys Val Ile Leu Val Ser
65 70 75 80

Gly Gly His Gln Pro Val Cys Tyr Val Val Glu Leu Lys Thr Cys Leu
85 90 95

Ser His Gln Leu Ile Pro Thr Asn Thr Val Arg Thr Ser Gln Arg Ala
100 105 110

Gln Gly Leu Cys Gln Leu Ser Asp Ser
115 120

<210> 24
 <211> 918
 <212> DNA
 <213> Kaposi's sarcoma-associated herpesvirus

<400> 24
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 gccgcccttc agtcaaaaat agggagcgta ctgccgctcg gagattgcca ccgtttacaa 120
 aatatacagg cattgggcct ggggtgcgta tgctcacgtg agacatctcc ggactacatc 180
 caaattatgc agtatctatc caagtgcaca ctcgctgtcc tggaggaggt tcgcccggac 240
 agcctgcgcc taacgcggat ggatccctct gacaaccttc agataaaaaa cgtatatgcc 300
 cccttttttc agtgggacag caacaccag ctagcagtgc taccgccatt ttttagccga 360
 aaggattcca ccattgtgct cgaatccaac ggatttgacc ccgtgttccc catggtcgtg 420
 ccgcagcaac tggggcacgc tattctgcag cagctgttgg tgtaccacat ctactccaaa 480
 atatcggccg gggccccgga tgatgtaaat atggcggaac ttgatctata taccaccaat 540
 gtgtcattta tggggcgcac atatcgtctg gacgtagaca acacggatcc acgtactgcc 600
 ctgcgagtgc ttgacgatct gtccatgtac ctttgtatcc tatcagcctt ggttcccagg 660
 ggggtgtctcc gtctgctcac ggcgctcgtg cggcacgaca ggcacacctc gacagagggtg 720
 tttgaggggg tggtgccaga tgaggtgacc aggatagatc tcgaccagtt gagcgtccca 780
 gatgacatca ccaggatgcg cgtcatgttc tcctatcttc agagtctcag ttctatatatt 840
 aatcttggcc ccagactgca cgtgtatgcc tactcggcag agactttggc ggcctcctgt 900
 tggatttccc cagcgtaa 918

<210> 25
 <211> 305
 <212> PRT
 <213> Kaposi's sarcoma-associated herpesvirus

<400> 25

Met Ala Leu Asp Lys Ser Ile Val Val Asn Phe Thr Ser Arg Leu Phe
1 5 10 15

Ala Asp Glu Leu Ala Ala Leu Gln Ser Lys Ile Gly Ser Val Leu Pro
20 25 30

Leu Gly Asp Cys His Arg Leu Gln Asn Ile Gln Ala Leu Gly Leu Gly
35 40 45

Cys Val Cys Ser Arg Glu Thr Ser Pro Asp Tyr Ile Gln Ile Met Gln
50 55 60

Tyr Leu Ser Lys Cys Thr Leu Ala Val Leu Glu Glu Val Arg Pro Asp
65 70 75 80

Ser Leu Arg Leu Thr Arg Met Asp Pro Ser Asp Asn Leu Gln Ile Lys
85 90 95

Asn Val Tyr Ala Pro Phe Phe Gln Trp Asp Ser Asn Thr Gln Leu Ala
100 105 110

Val Leu Pro Pro Phe Phe Ser Arg Lys Asp Ser Thr Ile Val Leu Glu
115 120 125

Ser Asn Gly Phe Asp Pro Val Phe Pro Met Val Val Pro Gln Gln Leu
130 135 140

Gly His Ala Ile Leu Gln Gln Leu Leu Val Tyr His Ile Tyr Ser Lys
145 150 155 160

Ile Ser Ala Gly Ala Pro Asp Asp Val Asn Met Ala Glu Leu Asp Leu
165 170 175

Tyr Thr Thr Asn Val Ser Phe Met Gly Arg Thr Tyr Arg Leu Asp Val
180 185 190

Asp Asn Thr Asp Pro Arg Thr Ala Leu Arg Val Leu Asp Asp Leu Ser
195 200 205

Met Tyr Leu Cys Ile Leu Ser Ala Leu Val Pro Arg Gly Cys Leu Arg
 210 215 220

Leu Leu Thr Ala Leu Val Arg His Asp Arg His Pro Leu Thr Glu Val
 225 230 235 240

Phe Glu Gly Val Val Pro Asp Glu Val Thr Arg Ile Asp Leu Asp Gln
 245 250 255

Leu Ser Val Pro Asp Asp Ile Thr Arg Met Arg Val Met Phe Ser Tyr
 260 265 270

Leu Gln Ser Leu Ser Ser Ile Phe Asn Leu Gly Pro Arg Leu His Val
 275 280 285

Tyr Ala Tyr Ser Ala Glu Thr Leu Ala Ala Ser Cys Trp Tyr Ser Pro
 290 295 300

Arg
 305

<210> 26

<211> 873

<212> DNA

<213> Kaposi's sarcoma-associated herpesvirus

<400> 26
 atggcgatcat ctgatattct gtcggttgca aggacggatg acggctccgt ctgtgaagtc 60
 tccctgcgtg gaggtaggaa aaaaactacc gtctacctgc cggacactga accctgggtg 120
 gtagagaccg acgcatcaa agacgccttc ctcagcgacg ggatcgtgga tatggctcga 180
 aagcttcacg gtggtgccct gccctcaaatt tctcacaacg gcttgaggat ggtgcttttt 240
 tggtattgtt acttgcaaaa ttgtgtgtac ctagccctgt ttctgtgccc ccttaatcct 300
 tacttggtaa ctccctcaag cattgagttt gccgagcccc ttgtggcacc tgaggtgctc 360
 ttccacaccc cggctgagat gtctcgcggt tgcgatgacg cgattttctg taaactgccc 420
 tataccgtgc ctataatcaa caccacgttt ggacgcattt acccgaactc tacacgcgag 480

ccggacggca ggcctacgga ttactccatg gcccttagaa gggcttttgc agttatggtt 540
aacacgtcat gtgcaggagt gacattgtgc cgcggagaaa ctcagaccgc atcccgtaac 600
cacactgagt gggaaaatct gctggctatg ttttctgtga ttatctatgc cttagatcac 660
aactgtcacc cggaagcact gtctatcgcg agcggcatct ttgacgagcg tgactatgga 720
ttattcatct ctcagccccg gagcgtgccc tcgcctaccc cttgcgacgt gtcgtgggaa 780
gatatctaca acgggactta cctagctcgg cctggaaact gtgaccctg gcccaatcta 840
tccaccctc ccttgattct aaattttaaa taa 873

<210> 27

<211> 290

<212> PRT

<213> Kaposi's sarcoma-associated herpesvirus

<400> 27

Met Ala Ser Ser Asp Ile Leu Ser Val Ala Arg Thr Asp Asp Gly Ser
1 5 10 15

Val Cys Glu Val Ser Leu Arg Gly Gly Arg Lys Lys Thr Thr Val Tyr
20 25 30

Leu Pro Asp Thr Glu Pro Trp Val Val Glu Thr Asp Ala Ile Lys Asp
35 40 45

Ala Phe Leu Ser Asp Gly Ile Val Asp Met Ala Arg Lys Leu His Arg
50 55 60

Gly Ala Leu Pro Ser Asn Ser His Asn Gly Leu Arg Met Val Leu Phe
65 70 75 80

Cys Tyr Cys Tyr Leu Gln Asn Cys Val Tyr Leu Ala Leu Phe Leu Cys
85 90 95

Pro Leu Asn Pro Tyr Leu Val Thr Pro Ser Ser Ile Glu Phe Ala Glu
100 105 110

Pro Val Val Ala Pro Glu Val Leu Phe Pro His Pro Ala Glu Met Ser
115 120 125

Arg Gly Cys Asp Asp Ala Ile Phe Cys Lys Leu Pro Tyr Thr Val Pro
130 135 140

Ile Ile Asn Thr Thr Phe Gly Arg Ile Tyr Pro Asn Ser Thr Arg Glu
145 150 155 160

Pro Asp Gly Arg Pro Thr Asp Tyr Ser Met Ala Leu Arg Arg Ala Phe
165 170 175

Ala Val Met Val Asn Thr Ser Cys Ala Gly Val Thr Leu Cys Arg Gly
180 185 190

Glu Thr Gln Thr Ala Ser Arg Asn His Thr Glu Trp Glu Asn Leu Leu
195 200 205

Ala Met Phe Ser Val Ile Ile Tyr Ala Leu Asp His Asn Cys His Pro
210 215 220

Glu Ala Leu Ser Ile Ala Ser Gly Ile Phe Asp Glu Arg Asp Tyr Gly
225 230 235 240

Leu Phe Ile Ser Gln Pro Arg Ser Val Pro Ser Pro Thr Pro Cys Asp
245 250 255

Val Ser Trp Glu Asp Ile Tyr Asn Gly Thr Tyr Leu Ala Arg Pro Gly
260 265 270

Asn Cys Asp Pro Trp Pro Asn Leu Ser Thr Pro Pro Leu Ile Leu Asn
275 280 285

Phe Lys
290

<210> 28

<211> 363

<212> DNA

<213> Kaposi's sarcoma-associated herpesvirus

<400> 28
atgagcatga ctttccccgt ctccagtcac cggaggaatg gtggacggct ccgtcctggt 60
gcgaatggcc accaagcctc ccgtgattgg tcttataaca gtgctcttcc tcctagtcac 120
aggcgctctgc gtctactgct gcattcgcgt gttcctggcg gctcgactgt ggcgcgccac 180
cccactaggc agggccaccg tggcgatatca ggtccttcgc accctgggac cgcaggccgg 240
gtcacatgca ccgccgacgg tgggcatagc taccaggag ccctaccgta caatatacat 300
gccagattag aacgggggtgt gtgctataat ggatggctat gggggggggc tgtagataat 360
tga 363

<210> 29

<211> 120

<212> PRT

<213> Kaposi's sarcoma-associated herpesvirus

<400> 29

Met Ser Met Thr Phe Pro Val Ser Ser His Arg Arg Asn Gly Gly Arg
1 5 10 15

Leu Arg Pro Gly Ala Asn Gly His Gln Ala Ser Arg Asp Trp Ser Tyr
20 25 30

Asn Ser Ala Leu Pro Pro Ser His Arg Arg Leu Arg Leu Leu Leu His
35 40 45

Ser Arg Val Pro Gly Gly Ser Thr Val Ala Arg His Pro Thr Arg Gln
50 55 60

Gly His Arg Gly Val Ser Gly Pro Ser His Pro Gly Thr Ala Gly Arg
65 70 75 80

Val Thr Cys Thr Ala Asp Gly Gly His Ser Tyr Pro Gly Ala Leu Pro
85 90 95

Tyr Asn Ile His Ala Arg Leu Glu Arg Gly Val Cys Tyr Asn Gly Trp
100 105 110

Leu Trp Gly Gly Ala Val Asp Asn
115 120

<210> 30

<211> 921

<212> DNA

<213> Kaposi's sarcoma-associated herpesvirus

<400> 30

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| atgctgctca gccgtcacag ggagcgcctt gccgccaacc tggaggagac cgccaaagac | 60 |
| gccggagaga ggtgggaact gagtgccccg acattcacgc gacactgtcc caaaacggca | 120 |
| cggatggcgc acccttttat tggcgtggtg cacagaataa actcatacag ttcggtcctg | 180 |
| gaaacatact gcacacggca ccatcccgc acgcccacgt cagcaaatec cgacgtggga | 240 |
| acccccagac cgtccgagga caacgtcccc gcaaagccgc gcctattgga gtccctatca | 300 |
| acataacttg agatgcggtg tgtgcgcgag gacgcgcacg tctccacggc cgatcaactg | 360 |
| gtcgagtacc aggcggggcag aaaaacacac gactccctgc acgcctgctc tgtctaccgc | 420 |
| gaacttcagg cttttctggt taacctttcg tcctttctga acggctgtta cgttcccggg | 480 |
| gtgcactggc tggagccctt ccaacagcag ctagtaatgc acactttttt ctttttggtt | 540 |
| tcaatcaagg ccccaaaaa gacgcaccag ttgtttggat tgtttaagca gtacttcggt | 600 |
| ttatttgaaa ctccaaacag tgttttacag acgtttaagc aaaaggcaag cgtattccta | 660 |
| ataccaagga gacacggaaa gacatggata gtggtggcga tcatcagcat gctactggca | 720 |
| tccgtagaga acattaacat tgggtacgta gccacacaaa agcacgtagc caactccgtg | 780 |
| ttcgcggaaa tcataaagac gctttgtcgg tggttccccc caaaaattt aaacatcaag | 840 |
| aaggagaacg gaaccataat ctacacgcga cccggaggac ggtccagctc gctgatgtgc | 900 |
| gcaacatgct tcaataagaa c | 921 |

<210> 31

<211> 307

<212> PRT

<213> Kaposi's sarcoma-associated herpesvirus

<400> 31

Met Leu Leu Ser Arg His Arg Glu Arg Leu Ala Ala Asn Leu Glu Glu
1 5 10 15

Thr Ala Lys Asp Ala Gly Glu Arg Trp Glu Leu Ser Ala Pro Thr Phe
20 25 30

Thr Arg His Cys Pro Lys Thr Ala Arg Met Ala His Pro Phe Ile Gly
35 40 45

Val Val His Arg Ile Asn Ser Tyr Ser Ser Val Leu Glu Thr Tyr Cys
50 55 60

Thr Arg His His Pro Ala Thr Pro Thr Ser Ala Asn Pro Asp Val Gly
65 70 75 80

Thr Pro Arg Pro Ser Glu Asp Asn Val Pro Ala Lys Pro Arg Leu Leu
85 90 95

Glu Ser Leu Ser Thr Tyr Leu Gln Met Arg Cys Val Arg Glu Asp Ala
100 105 110

His Val Ser Thr Ala Asp Gln Leu Val Glu Tyr Gln Ala Gly Arg Lys
115 120 125

Thr His Asp Ser Leu His Ala Cys Ser Val Tyr Arg Glu Leu Gln Ala
130 135 140

Phe Leu Val Asn Leu Ser Ser Phe Leu Asn Gly Cys Tyr Val Pro Gly
145 150 155 160

Val His Trp Leu Glu Pro Phe Gln Gln Gln Leu Val Met His Thr Phe
165 170 175

Phe Phe Leu Val Ser Ile Lys Ala Pro Gln Lys Thr His Gln Leu Phe
 180 185 190

Gly Leu Phe Lys Gln Tyr Phe Gly Leu Phe Glu Thr Pro Asn Ser Val
 195 200 205

Leu Gln Thr Phe Lys Gln Lys Ala Ser Val Phe Leu Ile Pro Arg Arg
 210 215 220

His Gly Lys Thr Trp Ile Val Val Ala Ile Ile Ser Met Leu Leu Ala
 225 230 235 240

Ser Val Glu Asn Ile Asn Ile Gly Tyr Val Ala His Gln Lys His Val
 245 250 255

Ala Asn Ser Val Phe Ala Glu Ile Ile Lys Thr Leu Cys Arg Trp Phe
 260 265 270

Pro Pro Lys Asn Leu Asn Ile Lys Lys Glu Asn Gly Thr Ile Ile Tyr
 275 280 285

Thr Arg Pro Gly Gly Arg Ser Ser Ser Leu Met Cys Ala Thr Cys Phe
 290 295 300

Asn Lys Asn
 305

<210> 32

<211> 1365

<212> DNA

<213> Kaposi's sarcoma-associated herpesvirus

<400> 32

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| atggatgcgc atgctatcaa cgaaagatac gtaggtcctc gctgccaccg tttggcccac | 60 |
| gtggtgctgc ctaggacctt tctgctgcat cagccatac ccctggagcc cgagatcatc | 120 |
| ttttccacct acaccgggtt cagccggctc ccagggtcat cccgccgggtt ggtggtgtgt | 180 |
| gggaaacgtg tcctgccagg ggaggaaaac caacttgcgt cttcaccttc tggtttggcg | 240 |

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cttagcctgc ctctgttttc ccacgatggg aactttcatc catttgacat ctcggtactg 300
cgcatcttct gccctgggtc taatcttagt cttactgtca gatttctcta tctatctctg 360
gtggtggcta tggggggcggg acggaataat gcgcggagtc cgaccgttga cggggtatcg 420
ccgccagagg gcgccgtagc ccaccctttg gaggaactgc agaggctggc gcgtgctacg 480
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tcagacggag accgcgccac tcaccacatg gcgctcgagg ctccgggaac cgtgcgtgga 600
gaaagcctag acccgctgtt ttacagaag gggccagcgc gcacacgcca caggccaccc 660
cccgtgcgac tgagcttcaa ccccgctcaat gccgatgtac ccgctacctg gcgagacgcc 720
actaacgtgt actcgggtgc tccctactat gtgtgtgttt acgaacgcgg tggccgtcag 780
gaagacgact ggctgccgat accactgagc ttcccagaag agcccgtgcc cccgccaccg 840
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aaacagcccc atgtgcaaaa gacagtcagc gggagtcttg tggcatgcgt gatcgtcaca 1260
cccgcatagg aagcctggct tgtgttacct ggggggtttg ctattaaagc ccgctatagg 1320
gcgtcgaagg aggatctggt gttcattcga ggccgctatg gctag 1365

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<210> 33

<211> 454

<212> PRT

<213> Kaposi's sarcoma-associated herpesvirus

<400> 33

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Met Asp Ala His Ala Ile Asn Glu Arg Tyr Val Gly Pro Arg Cys His
1           5           10          15

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Arg Leu Ala His Val Val Leu Pro Arg Thr Phe Leu Leu His His Ala
 20 25 30

Ile Pro Leu Glu Pro Glu Ile Ile Phe Ser Thr Tyr Thr Arg Phe Ser
 35 40 45

Arg Ser Pro Gly Ser Ser Arg Arg Leu Val Val Cys Gly Lys Arg Val
 50 55 60

Leu Pro Gly Glu Glu Asn Gln Leu Ala Ser Ser Pro Ser Gly Leu Ala
 65 70 75 80

Leu Ser Leu Pro Leu Phe Ser His Asp Gly Asn Phe His Pro Phe Asp
 85 90 95

Ile Ser Val Leu Arg Ile Ser Cys Pro Gly Ser Asn Leu Ser Leu Thr
 100 105 110

Val Arg Phe Leu Tyr Leu Ser Leu Val Val Ala Met Gly Ala Gly Arg
 115 120 125

Asn Asn Ala Arg Ser Pro Thr Val Asp Gly Val Ser Pro Pro Glu Gly
 130 135 140

Ala Val Ala His Pro Leu Glu Glu Leu Gln Arg Leu Ala Arg Ala Thr
 145 150 155 160

Pro Asp Pro Ala Leu Thr Arg Gly Pro Leu Gln Val Leu Thr Gly Leu
 165 170 175

Leu Arg Ala Gly Ser Asp Gly Asp Arg Ala Thr His His Met Ala Leu
 180 185 190

Glu Ala Pro Gly Thr Val Arg Gly Glu Ser Leu Asp Pro Pro Val Ser
 195 200 205

Gln Lys Gly Pro Ala Arg Thr Arg His Arg Pro Pro Pro Val Arg Leu
 210 215 220

Ser Phe Asn Pro Val Asn Ala Asp Val Pro Ala Thr Trp Arg Asp Ala
 225 230 235 240

Thr Asn Val Tyr Ser Gly Ala Pro Tyr Tyr Val Cys Val Tyr Glu Arg
245 250 255

Gly Gly Arg Gln Glu Asp Asp Trp Leu Pro Ile Pro Leu Ser Phe Pro
260 265 270

Glu Glu Pro Val Pro Pro Pro Pro Gly Leu Val Phe Met Asp Asp Leu
275 280 285

Phe Ile Asn Thr Lys Gln Cys Asp Phe Val Asp Thr Leu Glu Ala Ala
290 295 300

Cys Arg Thr Gln Gly Tyr Thr Leu Arg Gln Arg Val Pro Val Ala Ile
305 310 315 320

Pro Arg Asp Ala Glu Ile Ala Asp Ala Val Lys Ser His Phe Leu Glu
325 330 335

Ala Cys Leu Val Leu Arg Gly Leu Ala Ser Glu Ala Ser Ala Trp Ile
340 345 350

Arg Ala Ala Thr Ser Pro Pro Leu Gly Arg His Ala Cys Trp Met Asp
355 360 365

Val Leu Gly Leu Trp Glu Ser Arg Pro His Thr Leu Gly Leu Glu Leu
370 375 380

Arg Gly Val Asn Cys Gly Gly Thr Asp Gly Asp Trp Leu Glu Ile Leu
385 390 395 400

Lys Gln Pro Asp Val Gln Lys Thr Val Ser Gly Ser Leu Val Ala Cys
405 410 415

Val Ile Val Thr Pro Ala Leu Glu Ala Trp Leu Val Leu Pro Gly Gly
420 425 430

Phe Ala Ile Lys Ala Arg Tyr Arg Ala Ser Lys Glu Asp Leu Val Phe
435 440 445

Ile Arg Gly Arg Tyr Gly
450

<210> 34
 <211> 984
 <212> DNA
 <213> Kaposi's sarcoma-associated herpesvirus

<400> 34
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 gaaactcccc tgaacagctt cctcttggtt tccaacgtga tgcccagagt ccagccaatc 180
 tgcagtggcc ggccggcctt gcggccagac tttagtaatc tccacttgcc tagactggag 240
 aagctccaga gagtcctcgg gcagggtttc ggggcggcgg gtgaggaaat cgcactggac 300
 ccgtctcacg tagaaacaca cgaaaagggc caggtgttct acaaccacta tgctaccgag 360
 gagtggacgt gggctttgac tctgaataag gatgcgctcc ttcgggaggc tgtagatggc 420
 ctgtgtgacc ccggaacttg gaaggggtctt cttcctgacg acccccttcc gttgctatgg 480
 ctgctgttca acggacccgc ctctttttgt cgggccgact gttgcctgta caagcagcac 540
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 acatggggcg cggttgccg cccgccattc gctacttctc ggatacaaag ggtagtgagt 720
 cagatgaaaa tcatagatgc ttccgacact tacatttccc acacctgcct cttgtgtcac 780
 atatatcagc aaaatagcat aattgcgggt caggggaccc acgtgggtgg aatcctactg 840
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 acgggcgact atctaatacat cccatcgat gacataccgg cgatcatcac catgatcaag 960
 gagaatggac tcaaccaact ctaa 984

<210> 35
 <211> 327
 <212> PRT
 <213> Kaposi's sarcoma-associated herpesvirus

<400> 35

Met Phe Ala Leu Ser Ser Leu Val Ser Glu Gly Asp Pro Glu Val Thr
1 5 10 15

Ser Arg Tyr Val Lys Gly Val Gln Leu Ala Leu Asp Leu Ser Glu Asn
20 25 30

Thr Pro Gly Gln Phe Lys Leu Ile Glu Thr Pro Leu Asn Ser Phe Leu
35 40 45

Leu Val Ser Asn Val Met Pro Glu Val Gln Pro Ile Cys Ser Gly Arg
50 55 60

Pro Ala Leu Arg Pro Asp Phe Ser Asn Leu His Leu Pro Arg Leu Glu
65 70 75 80

Lys Leu Gln Arg Val Leu Gly Gln Gly Phe Gly Ala Ala Gly Glu Glu
85 90 95

Ile Ala Leu Asp Pro Ser His Val Glu Thr His Glu Lys Gly Gln Val
100 105 110

Phe Tyr Asn His Tyr Ala Thr Glu Glu Trp Thr Trp Ala Leu Thr Leu
115 120 125

Asn Lys Asp Ala Leu Leu Arg Glu Ala Val Asp Gly Leu Cys Asp Pro
130 135 140

Gly Thr Trp Lys Gly Leu Leu Pro Asp Asp Pro Leu Pro Leu Leu Trp
145 150 155 160

Leu Leu Phe Asn Gly Pro Ala Ser Phe Cys Arg Ala Asp Cys Cys Leu
165 170 175

Tyr Lys Gln His Cys Gly Tyr Pro Gly Pro Val Leu Leu Pro Gly His
180 185 190

Met Tyr Ala Pro Lys Arg Asp Leu Leu Ser Phe Val Asn His Ala Leu
195 200 205

Lys Tyr Thr Lys Phe Leu Tyr Gly Asp Phe Ser Gly Thr Trp Ala Ala
 210 215 220

Ala Cys Arg Pro Pro Phe Ala Thr Ser Arg Ile Gln Arg Val Val Ser
 225 230 235 240

Gln Met Lys Ile Ile Asp Ala Ser Asp Thr Tyr Ile Ser His Thr Cys
 245 250 255

Leu Leu Cys His Ile Tyr Gln Gln Asn Ser Ile Ile Ala Gly Gln Gly
 260 265 270

Thr His Val Gly Gly Ile Leu Leu Leu Ser Gly Lys Gly Thr Gln Tyr
 275 280 285

Ile Thr Gly Asn Val Gln Thr Gln Arg Cys Pro Thr Thr Gly Asp Tyr
 290 295 300

Leu Ile Ile Pro Ser Tyr Asp Ile Pro Ala Ile Ile Thr Met Ile Lys
 305 310 315 320

Glu Asn Gly Leu Asn Gln Leu
 325

<210> 36

<211> 330

<212> DNA

<213> Kaposi's sarcoma-associated herpesvirus

<400> 36
 ggatccctct gacaaccttc agataaaaaa cgtatatgcc cccttttttc agtgggacag 60
 caacacccag ctagcagtgc taccgccatt ttttagccga aaggattcca ccattgtgct 120
 cgaatccaac ggatttgacc ccgtgttccc catggtcgtg ccgcagcaac tggggcacgc 180
 tattctgcag cagctgttgg tgtaccacat ctactccaaa atacggccg gggccccgga 240
 tgatgtaa atggcggaac ttgatctata taccaccaat gtgtcattta tggggcgcac 300
 atacgtctg gacgtagaca acacggatcc 330

<210> 37
 <211> 627
 <212> DNA
 <213> Kaposi's sarcoma-associated herpesvirus

<400> 37
 ggatccgctg gcaggtgggc ggcacctcg tcgggtagct tggagacaaa cagctccagg 60
 ccagtccgcg ccgtagcgcc tgcaggtgcc tcaccaccgg ggccgggtca tgcgatctgt 120
 ttagtccgga gaagataggg cccttgggaa gccgctgaac cagctccagg gtctccaaga 180
 tgcgcaccgg ttgtcggagc tgtcgcgata gaggttaggg taggtgtccg gtccgtccgt 240
 gggctcaaac ctgcccagac acaccactgt ctgctggggg atcatccttc tcagggagat 300
 gcattctttg gaagtagtgg tagagatgga gcagactgcc agggcgttgc aggagtgggtg 360
 gcgatgggtgc gcaccgtttt taagaaaccc cccaggggtg ggactcccgc tccctgcagc 420
 atctcggcct gctgtacgtc cttggcgaat atgcgacgaa atcggtctgt cgcacggggg 480
 cccagggccg gtccgggtggc atacaggccg gtgaggggccc cctgggtctg tccgcctgga 540
 aacaggggtgc tgtgaaacaa cagggtgcaa ggccgcgaat acccctctgc acgtgtgtgt 600
 ggacgtgggt gtatgctccg tggatcc 627

<210> 38
 <211> 233
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Probe

<400> 38
 agccgaaagg attccaccat tgtgctcgaa tccaacggat ttgaccccgt gttccccatg 60
 gtcgtgccgc agcaactggg gcacgctatt ctgcagcagc tgttggtgta ccacatctac 120
 tccaaaatat cggccggggc cccggatgat gtaaatatgg cggaacttga tctatatacc 180

accaatgtgt catttatggg gcgcacatat cgtctggacg tagacaacac gga 233

<210> 39

<211> 328

<212> DNA

<213> Artificial Sequence

<220>

<223> Probe

<400> 39
gaaattaccc acgagatcgc ttccctgcac accgcacttg gctactcatc agtcatcgcc 60
ccggcccacg tggccgccat aactacagac atgggagtac attgtcagga cctctttatg 120
atthttcccag gggacgcgta tcaggaccgc cagctgcatg actatatcaa aatgaaagcg 180
ggcgtgcaaa ccggctcacc gggaaacaga atggatcacg tgggatacac tgctgggggtt 240
cctcgtgctg agaacctgcc cggtttgagt catggtcagc tggcaacctg cgagataatt 300
cccacgccgg tcacatctga cgttgccct 328

<210> 40

<211> 132

<212> DNA

<213> Artificial Sequence

<220>

<223> Probe

<400> 40
aacacgtcat gtgcaggagt gacattgtgc cgcggagaaa ctgagaccgc atcccgtaac 60
cacactgagt gggaaaatct gctggctatg ttttctgtga ttatctatgc cttagatcac 120
aactgtcacc cg 132

<210> 41
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> Primer

<400> 41
agccgaaagg attccaccat

20

<210> 42
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> Primer

<400> 42
gaaattaccc acgagatcgc

20

<210> 43
<211> 23
<212> DNA
<213> Artificial Sequence

<220>

<223> Primer

<400> 43
aacacgtcat gtgcaggagt gac

23

<210> 44

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 44

acagggctgg ttgcccgagg t

21

<210> 45

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 45

agttgcaaac cagacctcag

20

<210> 46

<211> 304

<212> PRT

<213> Kaposi's sarcoma-associated herpesvirus

<400> 46

Met Leu Thr Asp Lys Thr Ile Ile Val Ser Leu Thr Ser Arg Leu Phe
1 5 10 15

Ala Asp Glu Ile Thr Lys Leu Gln Lys Lys Ile Gly Ser Ile Leu Pro
20 25 30

Leu Gln Asp Pro His Lys Leu Gln Ser Leu Asp Thr Leu Gly Leu Asn
 35 40 45

Ala Val Cys Ser Arg Asp Val Phe Pro Asp Tyr Val His Met Phe Ser
 50 55 60

Tyr Leu Ser Lys Cys Thr Leu Ala Ile Leu Glu Glu Val Asn Pro Asp
 65 70 75 80

Asn Leu Ile Leu Thr Arg Leu Asp Pro Ser Glu Thr Tyr Gln Ile Lys
 85 90 95

Asn Val Tyr Glu Pro Met Phe Gln Trp Asp Gly Phe Ser Asn Leu Thr
 100 105 110

Val Ile Pro Pro Val Phe Gly Arg Gln Gln Ala Thr Val Thr Leu Glu
 115 120 125

Ser Asn Gly Phe Asp Leu Val Phe Pro Ser Val Val Pro Ser Asp Leu
 130 135 140

Ala Gln Ala Ile Ile Gly Lys Leu Leu Leu Tyr Asn Leu Tyr Ser Arg
 145 150 155 160

Leu Val Glu Ser Asp Pro Glu Ile Asn Ile Glu Glu Val Asn Met Tyr
 165 170 175

Thr Thr Asn Val Thr His Met Gly Arg His Tyr Val Leu Asp Ile Asn
 180 185 190

His Asn Asn Pro Asn Glu Ala Leu Lys Ser Leu Asp Asp Leu Ala Val
 195 200 205

Tyr Thr Lys Ile Leu Ser Ala Leu Ile Pro Arg Ala Lys Leu Arg Val
 210 215 220

Leu Thr Ile Leu Met Arg His Asp Gln His Glu Leu Leu Asp Val Phe
 225 230 235 240

Arg Gly Ile Val Pro Arg Glu Val Tyr Glu Ile Asp Ala Asn Ala Leu
 245 250 255

Ser Ile Gly Asp Asp Ile Thr Arg Met Thr Thr Phe Ile Thr Tyr Leu
260 265 270

Gln Ser Leu Ser Ser Ile Phe Asn Leu Gly Ala Lys Leu His Leu Ser
275 280 285

Ser Tyr Ala Ser Glu Thr Gln Thr Ala Thr Cys Trp Ile Ser Tyr Cys
290 295 300

<210> 47

<211> 301

<212> PRT

<213> Epstein Barr Virus

<400> 47

Met Asp Leu Lys Val Val Val Ser Leu Ser Ser Arg Leu Tyr Thr Asp
1 5 10 15

Glu Ile Ala Lys Met Gln Gln Arg Ile Gly Cys Ile Leu Pro Leu Ala
20 25 30

Ser Thr His Gly Thr Gln Asn Val Gln Gly Leu Gly Leu Gly Gln Val
35 40 45

Tyr Ser Leu Glu Thr Val Pro Asp Tyr Val Ser Met Tyr Asn Tyr Leu
50 55 60

Ser Asp Cys Thr Leu Ala Val Leu Asp Glu Val Ser Val Asp Ser Leu
65 70 75 80

Ile Leu Thr Lys Ile Val Pro Gly Gln Thr Tyr Ala Ile Lys Asn Lys
85 90 95

Tyr Gln Pro Phe Phe Gln Trp His Gly Thr Gly Ser Lys Ser Val Met
100 105 110

Pro Pro Val Phe Gly Arg Glu His Ala Thr Val Lys Leu Glu Ser Asn
115 120 125

Asp Val Asp Ile Val Phe Pro Met Val Leu Pro Thr Pro Ile Ala Glu
 130 135 140

Glu Val Leu Gln Lys Ile Leu Leu Phe Asn Val Tyr Ser Arg Val Val
 145 150 155 160

Met Gln Ala Pro Gly Asn Ala Asp Met Leu Asp Val His Met His Leu
 165 170 175

Gly Ser Val Ser Tyr Leu Gly His His Tyr Glu Leu Ala Leu Pro Glu
 180 185 190

Val Pro Gly Pro Leu Gly Leu Ala Leu Leu Asp Asn Leu Ser Leu Tyr
 195 200 205

Phe Cys Ile Met Val Thr Leu Leu Pro Arg Ala Ser Met Arg Leu Val
 210 215 220

Arg Gly Leu Ile Arg His Glu His His Asp Leu Leu Asn Leu Phe Gln
 225 230 235 240

Glu Met Val Pro Asp Glu Ile Ala Arg Ile Arg Leu Asp Asp Leu Ser
 245 250 255

Val Ala Asp Asp Leu Ser Arg Met Arg Val Met Met Thr Tyr Leu Gln
 260 265 270

Ser Leu Ala Ser Leu Phe Asn Leu Gly Pro Arg Leu Ala Thr Ala Ala
 275 280 285

Tyr Ser Gln Glu Thr Leu Thr Ala Thr Cys Trp Leu Arg
 290 295 300

<210> 48

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 48

tccgtgttgc ctacgtccag

20

<210> 49

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 49

aggcaacgtc agatgtga

18

<210> 50

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 50

cgggtgacag ttgtgatcta agg

23

<210> 51

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 51
agcactcgca gggcagtacg

20

<210> 52

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 52
gactcttcgc tgatgaaact gg

22

<210> 53

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 53
tccgtgttgt ctacgtccag

20

<210> 54

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 54
aggcaacgtc agatgtgac

19

<210> 55

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 55
catgggagta cattgtcagg acctc

25

<210> 56

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 56
ggaattatct cgcaggttgc c

21

<210> 57

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 57

ggcgacattc atcaacctca ggg

23

<210> 58

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 58

atatcatcct gtgcgttcac gac

23